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GENERALIZED MARCINKIEWICZ–ZYGMUND TYPE INEQUALITIES FOR RANDOM VARIABLES AND APPLICATIONS

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Abstract. It is shown that if the higher order Marcinkiewicz-Zygmund type inequality holds, then some generalized Marcinkiewicz-Zygmund type inequality holds, in particular, the lower order Marcinkiewicz-Zygmund type inequality also holds. No additional assumptions are made on the random variables. As applications, a generalized C_r-inequality and a weak law of large numbers for pairwise independent random variables are obtained.

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